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Set 6

1-(6-{[3-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)propyl]amino}-6-oxohexyl)-2-[(1*E*,3*E*)-3-(3,3-dimethyl(1-sulpho-butyl)-1,3-dihydro-2*H*-indol-2-ylidene)prop-1-enyl]-3,3-dimethyl-3*H*-indolium (Compound IX); and
1-(6-{[2-(2,5-dioxo-2,5-dihydro-1*H*-pyrrol-1-yl)ethyl]amino}-6-oxohexyl)-3,3-dimethyl-2-[(1*E*,3*E*,5*E*)-5-(3,3-dimethyl-(1-sulpho-butyl)-1,3-dihydro-2*H*-indol-2-ylidene)penta-1,3-dienyl]-3*H*-indolium (Compound X).

8. A method for labelling a mixture of proteins in a sample wherein each of said proteins contains one or more cysteine residues, said method comprising:

i) adding to an aqueous liquid containing said sample a fluorescent dye wherein said dye contains a target bonding group that is covalently reactive with said proteins; and

ii) reacting said dye with said proteins so that said dye labels said proteins;

characterised in that all available cysteine residues in said proteins are labelled with said dye.

9. A method according to claim 8 wherein said fluorescent dye is a cyanine dye.

10. A method according to claim 9 wherein said cyanine dye contains a sulphonic acid or sulphonate group.

11. A method according to any of claims 8 to 10 wherein said target bonding group is selected from a maleimido group and an iodoacetamido group.

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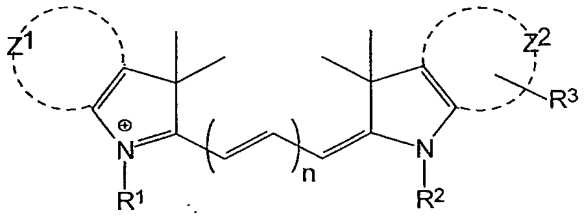
12. A method according to claim 8 further comprising prior to step i), the step of treating the protein with a reductant.

13. A method according to claim 8 wherein said dye is used in a range of 5 to 200nmol of dye per 50μg of protein.

14. A method according to claim 8 wherein said labelling is performed at a pH in the range from 6.0 to 9.0.

15. A method for labelling one or more proteins in a sample, the method comprising:

i) adding to a liquid sample containing said one or more proteins a fluorescent dye of formula (I):

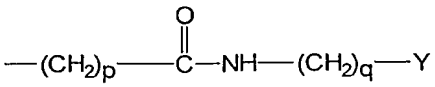


(I)

wherein n is different for each said dye and is 1, 2, or 3;

Z^1 and Z^2 independently represent the carbon atoms necessary to complete a phenyl or naphthyl ring system;

one of groups R^1 and R^2 is the group:



where Y is a target bonding group;

remaining group R^1 or R^2 is selected from $-(CH_2)_4-W$ or $-(CH_2)_r-H$;

group R^3 is hydrogen, except when either R^1 or R^2 is $-(CH_2)_r-H$, in which case R^3 is W;

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W is selected from sulphonic acid and sulphonate;

p is an integer from 3 to 6;

q is selected to be 2 or 3; and

r is an integer from 1 to 5;

and their salts;

characterised in that when n of two of said dyes differs by +1, one of p, q and r of said two dyes differs by −1; and

ii) incubating said dye with said sample under conditions suitable for labelling said one or more proteins.

16. A method according to claim 15 wherein each of Z^1 and Z^2 represents the carbon atoms necessary to complete a phenyl ring system.

17. A method according to claim 15 or claim 16 wherein:

n is selected to be 1 or 2;

p is selected to be 4 or 5;

q is selected to be 2 or 3; and

r is selected to be 1, 2 or 3.

18. A method according to any of claims 15 to 17 wherein said target bonding group Y is selected from a maleimido group and an iodoacetamido group.

19. A kit comprising a matched set of fluorescent dyes comprising at least two different fluorescent dyes having the formula (I):

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